

REMARKS

In view of the foregoing amendments and the following representations, reconsideration and allowance of the above-identified application is respectfully requested.

Claims 1, 2, 4, 5 and 8 are pending in the present application.

On page 3 of the Office Action, the Examiner objected to Claim 1 under 37 C.F.R. §1.75(a) as failing to particularly point out and distinctly claim the subject matter which the Applicants regards as their invention. Specifically, the Examiner points out that the phrase “the collection of adjacent disagreeing pixels” in line 5 of claim 1 lacks proper antecedent basis. The Examiner has suggested that Applicants amend the phrase to read “a collection of adjacent disagreeing pixels” Applicants thank the Examiner for the suggestion and have amended Claim 1 accordingly.

On page 3 of the Office Action, the Examiner objected to Claim 1 under 37 C.F.R. §1.75(a) as failing to particularly point out and distinctly claim the subject matter which the Applicants regards as their invention. Specifically, the Examiner points out that the term “areas” found at line 5 of page 5 is unclear. Applicant points out that Claim 1 has been currently amended so as to clarify the usage of the term. Claim 1 was amended, at the last line of page 4, to add the term “initial” to the disclosure. This amendment seeks to clarify that Claim 1 points out two distinct areas. The first of these areas is an “initial area”, defined as the predetermined location for making the decision on stained parts or blurred parts. Line 5 of page 5 was amended to add “additional” to the term “area”, which now highlights the second distinct area. As such, “additional area” is now defined as a location that contains stained and blurred portions but is not in the area initially predetermined for decision of stained or blurred parts. Applicant submits that these amendments clarify the subject matter disclosed as Claim 1. Support for the amended claim

language is found at paragraphs [0052]-[0054] and [0062] of the originally filed application. Additionally, support can be found in claim 1 as originally filed and Fig. 12 as originally filed. Therefore, the amended claim language does not represent new matter.

Claim 1 was amended to remove reference markers from the disclosure. Specifically, reference markers (a), (b), (c), and (d) were replaced with text based indicators. Furthermore, reference marker (24) was removed entirely. Claim 1 was further amended for grammatical and stylistic clarity. Claim 5 was amended to remove reference marker (24). These amendments do not constitute new matter.

Claim 1 was amended to recite that the first and second thresholds and the first and second limits are have different numerical values from one another. Support for this disclosure can be found in Fig. 2. As such, this amended claim language does not constitute new matter.

On page 4 of the Office Action, the Examiner has rejected claims 1, 2, 4 and 5 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Masuda et al (U.S.P.N. 4,685,139), Ohnishi (U.S.P.N 4,975,971) and Fujita (U.S.P.N. 6,535,621).

Applicants traverse these rejections and respectfully submit that Masuda, Ohnishi and Fujita, either alone or in any combination advanced by the Examiner, arrive at the subject matter recited in Applicants' claims.

Independent Claim 1, from which all other pending claims depend, points out non-obvious subject matter because it recites a method of inspecting paper on which images are printed repeatedly. This inspection method includes means for comparing the threshold values of a stored monochromatic image with the inspected values of a comparison image in order to determine if there has been a printing error. The multi-valued data of reference and inspection

are converted into monochrome data of reference and inspection by using the first and second thresholds of lowest stained density and highest blurred density so that monochrome images of reference and inspection can be stored in a memory. According to claim 1, the inspection method allows for arrangement and selection of predetermined areas for making the decision on stained or blurred parts. Furthermore, according to claim 1, the inspection method allows for decisions on blurred or stained parts that occur outside the initial predetermined areas of decision on stained or blurred spots. [See Claim 1]

The subject matter recited in Applicants' claims also allows for the selecting of a predetermined initial area of inspection with respect to blurred and stained portions. The selection of initial area(s) is then used in conjunction with the reference image to make a comparison with the inspection image. As a result, the subject matter recited allows for rapid investigation of pre-selected areas. This permits the inspection to focus on those areas that have the most likely incidence of printing error, such as a centered image on a blank background. [See Figs. 4-8, Pending Application]. Through predetermined areas, an operator is able to reduce the inspection time by passing over portions of the image that are not of concern, such as blank areas. Conversely, the operator is able to concentrate the image inspection time and resources on areas where errors are most prevalent. This results in an inspection method that is both more rapid and more efficient than those disclosed in the prior art.

The method of claim 1 also points out predetermining first and second limits (c, d) of minus of differential density and plus of differential density for inspection of shortage of printed density at every pixel and inspection of excess of printed density at every pixel. The method further includes comparing the multi valued data of inspection with the multi valued data of reference at every pixel for recognition of difference between the multi valued data of

reference and the multi valued data of inspection, and deciding on shortage or excess of printed density when the difference exceeds the first or second limit (c, d) of minus differential or plus differential density by portions having actual areas which exceed the second areas for decisions of shortage or excess of printed density.

The subject matter recited in Applicants' claims is not limited to merely making decisions relating to the predetermined areas that contain stained or blurred parts. Claim 1 further recites that the inspection method is capable of deciding on stained parts or blurred parts when those portions have areas exceeding the initial areas selected for inspection. In this way, an operator can be assured that if there is a printing error that exceeds the predetermined areas, the inspection method will still compare those areas to the reference area and make a decision concerning the existence of an error.

Lastly, the claimed subject matter recites that the first and second thresholds (a, b) and the first and second limits (c, d) have different numerical values from one another, as defined in the presently amended claim 1. Therefore, the recited method can generate an alarm during the inspection for stained parts or blurred parts simultaneously and accurately.

The applied references of Masuda, Ohnishi and Fujita do not include any teaching or suggestion as to the above elements recited in Applicant's claims, e.g., selecting a predetermined area for decision of stained or blurred parts, plus the ability to make decisions on stained or blurred parts that exceed the selected area for decision.

The Examiner, on page 5 of the pending Office Action, submits that Masuda recites predetermining areas for decision. However, Applicants note that the Examiner cites Masuda Figs. 11A and 11B to support that proposition. Applicants respectfully point out that Figs. 11A and 11B of Masuda are directed to calculating the pixel threshold level for error

decision and not an illustration of the pre-selection method. [Col. 9, lns. 60-70, Masuda.] Even if the cited figures recited the predetermining of areas, they fail to show that the first and second thresholds have different numerical values than the first and second limits.

Masuda also fails to employ a circuit arrangement for generating independent alarms depending on whether the inspection has determined a stained or blurry part. The judging circuit described in Masuda generates the same alarm for the stained portions as it does for the blurred portions. As such, it is impossible for the system and method of Masuda to generate a distinct alarm for both a stained part and blurred part when they occur simultaneously. In contrast, the invention as described in claim 1 is capable of generating independent alarms for blurred and stained portions. This is due to the fact that the first and second thresholds and first and second limits are of different numerical values from one another. [See Fig 2].

Masuda also fails to point out the predetermination of areas for initial decision. Therefore, it is impossible for Masuda to teach or suggest the ability to make decisions based upon an area that exceeds the predetermined area.

The Examiner has not cited Ohnishi or Fujita as reciting subject matter relating to predetermining of decision areas or as relating to the numerical values of the threshold values or limit values. As such, the subject matter recited in Applicants' independent Claim 1, as well as dependent Claims 2, 4, 5, and 8, are distinguished over the applied references of Masuda, Ohnishi and Fujita.

On page 9 of the Office Action, the Examiner has rejected claim 8 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Masuda et al (U.S.P.N. 4,685,139), Ohnishi (U.S.P.N 4,975,971) and Fujita (U.S.P.N. 6,535,621) as applied to Claim 1 above, and in further view of Juang (U.S.P.N. 5,999,636).

Applicant submits that Masuda, Ohnishi and Fujita in further combination with Juang fail to recite the non-obvious subject matter found in Claim 1. As previously stated, Masuda fails to point out the predetermination of a decision area or the differing numerical values of threshold and limit values. Juang also fails to point out the predetermination of areas for initial decision. Juang also fails to point out that the inspection method is dependent upon the threshold values and the limit values having differing numerical values. Therefore, any combination of the cited prior art still fails to disclose the non-obvious subject matter found in Claim 1. Claim 8, which depends from Claim 1, incorporates non-obvious subject matter found in Claim 1. As such, Claim 8 is also non-obvious.

Accordingly, the rejections under 35 U.S.C. § 103(a) should be withdrawn.

CONCLUSION

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

AUTHORIZATION

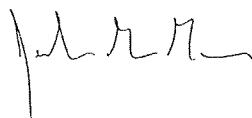
The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. **13-4500**, Order No. 0140-4222.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. **13-4500**, Order No. 0140-4222.

Respectfully submitted,
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Dated: January 20, 2009

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